

## Using PHA Templates for Consistency

### The Challenge

Leading agribusiness, food, energy and chemical firms needed to have a more consistent quality PHAs, both within a site and across multiple sites for units of a similar nature. They also wanted a way to ensure that certain hazards were identified within a specific system on a consistent basis in a consistent manner. This included ranking for severities and likelihoods and identification of safeguards.

### The Solution:

For each template, RISK, Inc. worked with a team of various subject matter experts and operations personnel from the organization to develop specific PHA-Pro templates to reduce on-site session time and gain greater consistency. The reduction of on-site session time reduced manpower requirements for site staff and manufacturing representatives needed for the teams and thereby reduced costs. Additionally, because there are multiple facilitators who lead the PHAs, developing a standard template led to greater consistency from site to site ensuring that key scenarios were reviewed for each PHA along with more consistent risk ranking.

Examples of templates RISK recently developed include:

- LOPA templates applied to refinery operations.
- Hexane Extraction Process PHA template
- LOPA and BowTie templates to be used with Extraction template
- Biodiesel Process PHA template
- KPI Gathering template

The focus of a PHA template are those scenarios common to all plants and not one-off scenarios. Scenarios developed for the template are detailed and include assumptions for conditional modifiers for facilitators to use in verifying applicability to the site where the template is being used. Information is clearly articulated and easy to verify. The template development process also acted to identify and eliminate scenarios that are not physically possible and could consume valuable team time.

To reduce team session time, we built a generic safeguard list to be used during each study preparation for the site to identify tag numbers that can be pre-populated prior to arriving on site. Additionally, we developed common scenarios for specific equipment, such as pumps and tanks.

We approached the template building in one of two ways. With one company RISK worked actively with the client's team of Subject Matter Experts (SMEs) and senior operators/trainers and walked through the high hazards in a team environment to develop the template. With another company, we began with the most recent plant PHA

### Client Description

#### Company

Multiple global

#### Project Location

Multiple sites

#### Industries

Chemical, Food, Agribusiness, Energy

#### Annual Revenues

\$20+ Billion

#### Employees

10,001+ employees

#### RISK, Inc. Solution

Create PHA Templates

and BowTies of high hazards to create a draft template. The draft template was then submitted to a team of the client's SMEs and senior operators for their review and comment via a web meeting with a focus on big picture items. Additional web sessions were held as needed.

Following the review(s) the template was updated for initial testing at a site. The template was revised from the lessons learned during its first application to be used for the next PHAs. After testing at those sites, the template was finalized for review and acceptance by the company SME team for use across all sites.

**The Result:**

The application of PHA templates for these clients provided a better insight into the possible hazards or releases with greater consistency. In one example developing the PHA template helped to reduce team time from a typical six weeks to a current 6-9 days. The reduction of on-site session time reduced manpower requirements for site staff and manufacturing representatives needed for the teams and thereby reduced costs.

Additionally, because there are multiple facilitators who lead the PHAs, developing a standard template led to greater consistency from site to site ensuring that key scenarios were reviewed for each PHA along with more consistent risk ranking between teams.